

The logo for McLean, featuring the word "McLean" in a bold, italicized, white sans-serif font, centered within a solid orange rectangular background.

McLean

Bringing Peace of Mind to Those We Serve

The Safety Aspects of Marine Construction

Keith Aschenbach – Director of Rentals

Tony Lenzi, CSP – Safety Coordinator

OBJECTIVES

- Brief History
- Type of Work
- Marine Equipment
- Unique Safety Issues
- Safety in the Engineering of Floating Equipment
- Scope of Authority
- Unique Training Requirements

Colin McLean 1844-1916

- Born in Nova Scotia
- Worked on the Brooklyn Bridge
- Built the pedestal for the Statue of Liberty
- Cleared Johnstown, PA following the flood in 1889
- Founded McLean Contracting Company in 1903, following the Baltimore fire
- Performed additional railroad and marine work in Maryland and Virginia until his death in 1916
- McLean Contracting continued to grow throughout the 20th century & into the 21st century



TYPE OF WORK

- Bridge Construction
- Demolition
- Substructure Repairs
- Piers & Bulkheads
- Marine Terminals
- Dredging
- Heavy Lifts
- Emergency Services
- Marine Salvage



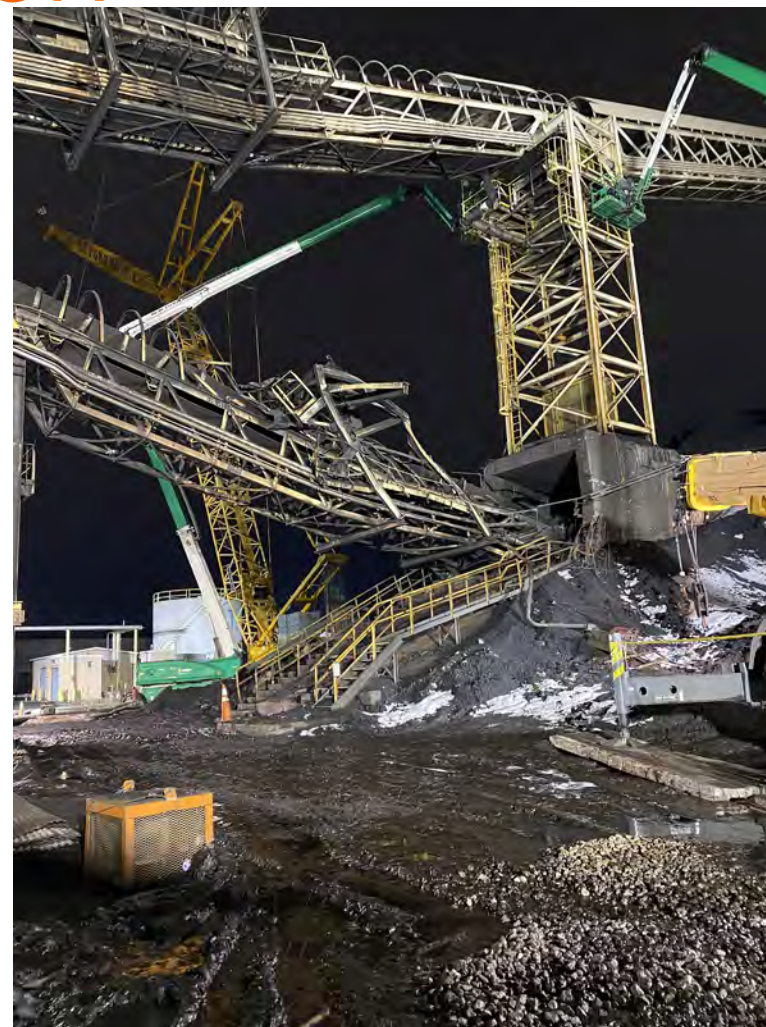
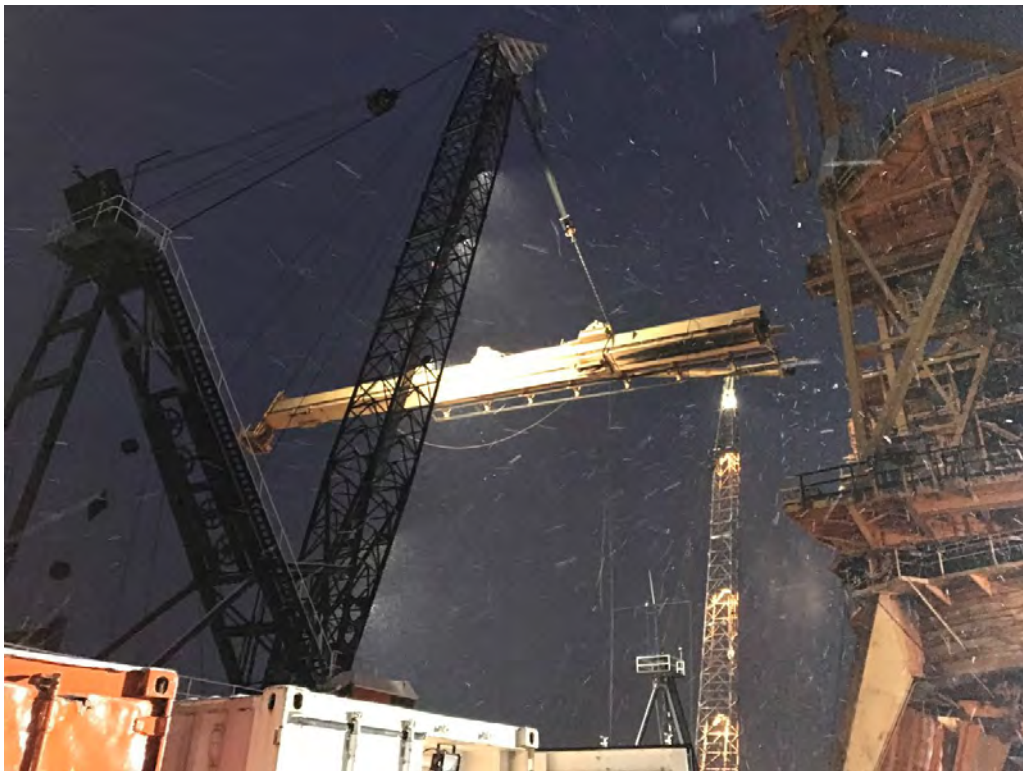
BRIDGE CONSTRUCTION



Nice/Middleton Bridge



DEMOLITION



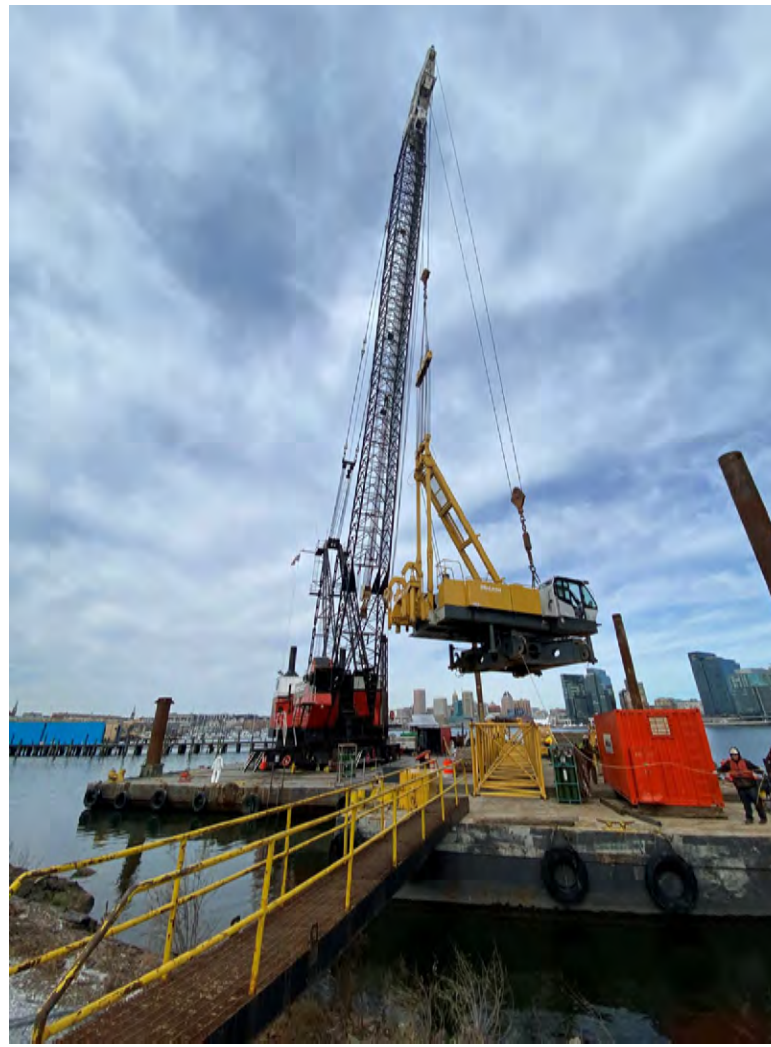
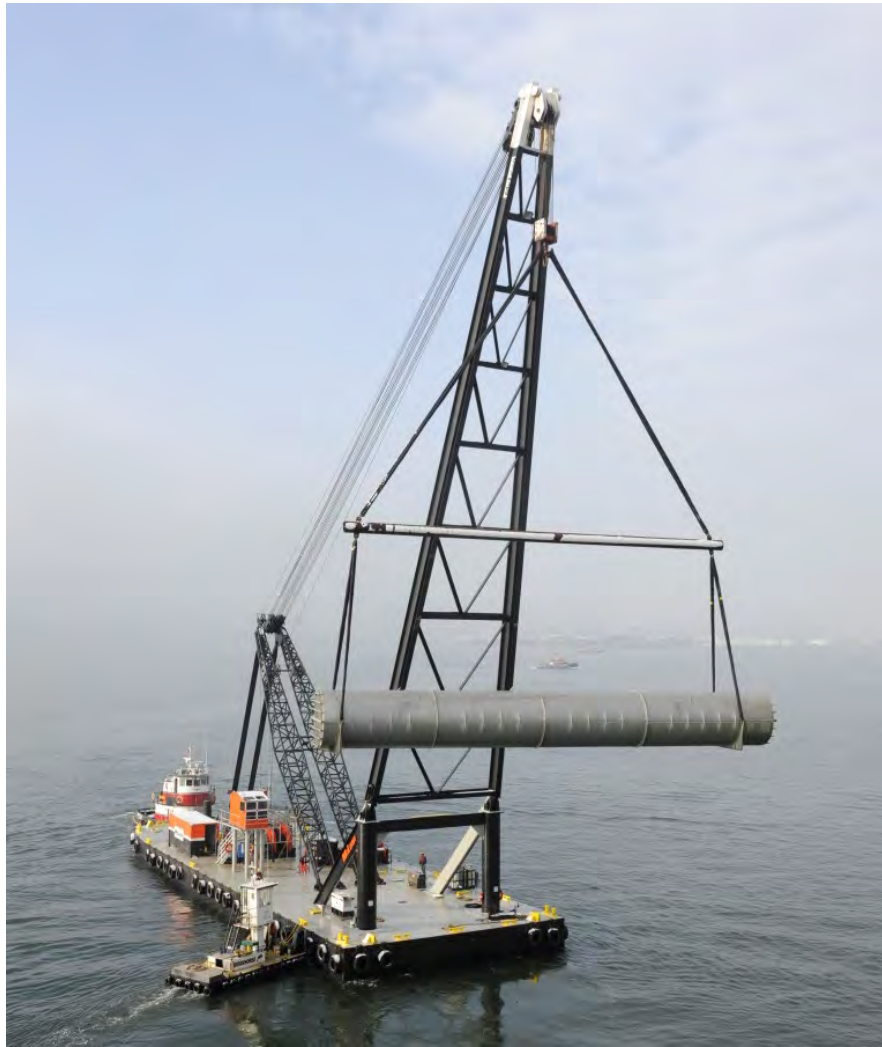
MARINE TERMINALS



DREDGING



HEAVY LIFTS



SUBSTRUCTURE REPAIRS



U.S. 40 OVER SUSQUEHANNA RIVER
THOMAS J. HATEM MEMORIAL BRIDGE
FOUNDATION & SUBSTRUCTURE REPAIRS
CONTRACT NO. HB-2056-00-007
PIER 18 ROLLING PILE IN UNDER
PIER CAP 05/08/2012
MARYLAND TRANSPORTATION AUTHORITY
MCLEAN CONTRACTING COMPANY

EMERGENCY SERVICES



MARINE SALVAGE



MARINE EQUIPMENT



- 13 Barge Mounted/Floating Cranes (Whirleys)
 - Range of 30-250 Ton Lifting Capacity
- 4 Tug-boats
- 10 Truck-able tug-boats
- 220 Shugart sectional barges
- 32 Barges
 - Mud Barges
 - Equipment Barges
 - Pile Barges

FLOATING CRANES



BARGES



TUGS & WORKBOATS



UNIQUE SAFETY ISSUES

- Accessing Floating Equipment
- Incident Management
- Marine Conditions & Weather
- Boats- SUBCHAPTER M
- Working at Heights
- Balancing Codes:
 - 29 CFR 1910- General Industry
 - 29 CFR 1915- Shipyards
 - 29 CFR 1917- Marine Terminals
 - 29 CFR 1918- Longshoring
 - 29 CFR 1926- Construction



29 CFR MARITIME

1915
SHIPYARDS

1917
MARINE TERMINALS

1918
LONGSHORING



ACCESSING FLOATING EQUIPMENT

29 CFR 1926.1051(a)

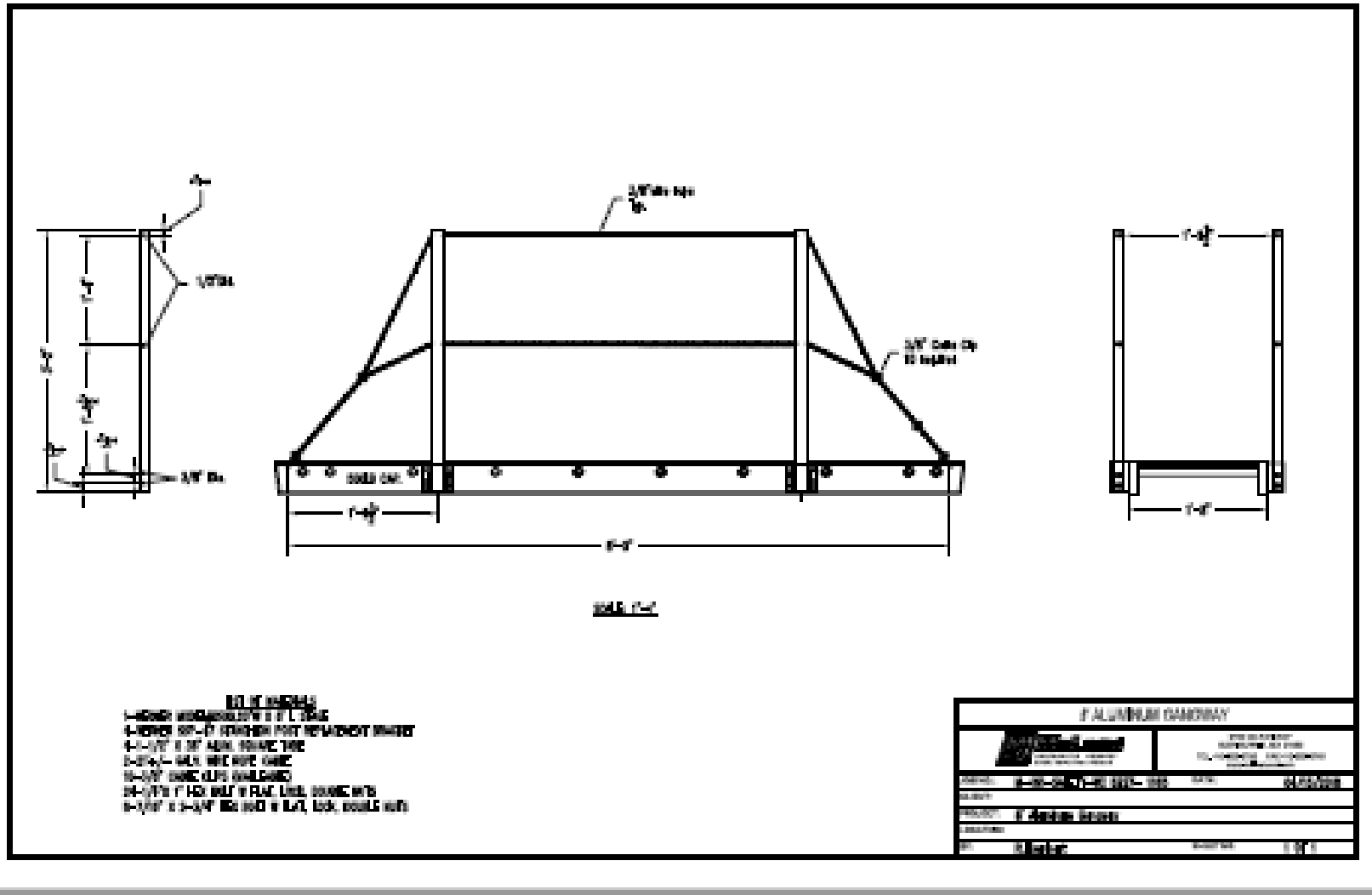
“A stairway or ladder shall be provided at all personnel points of access where there is a break in elevation of 19” or more and no ramp, runway, sloped embankment, or personnel hoist is provided.”



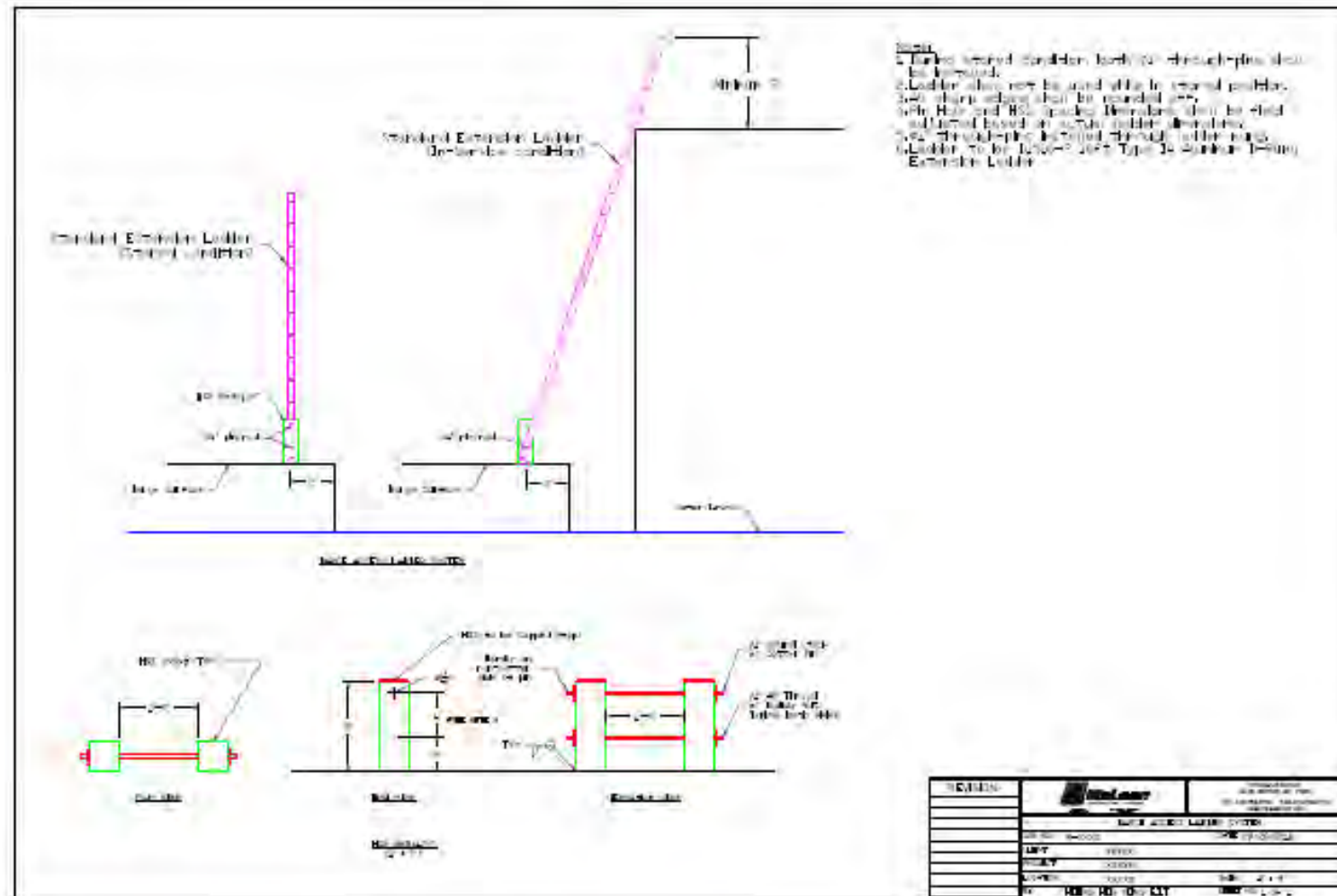
ACCESSING FLOATING EQUIPMENT



GANGWAYS... NOT WALKWAYS

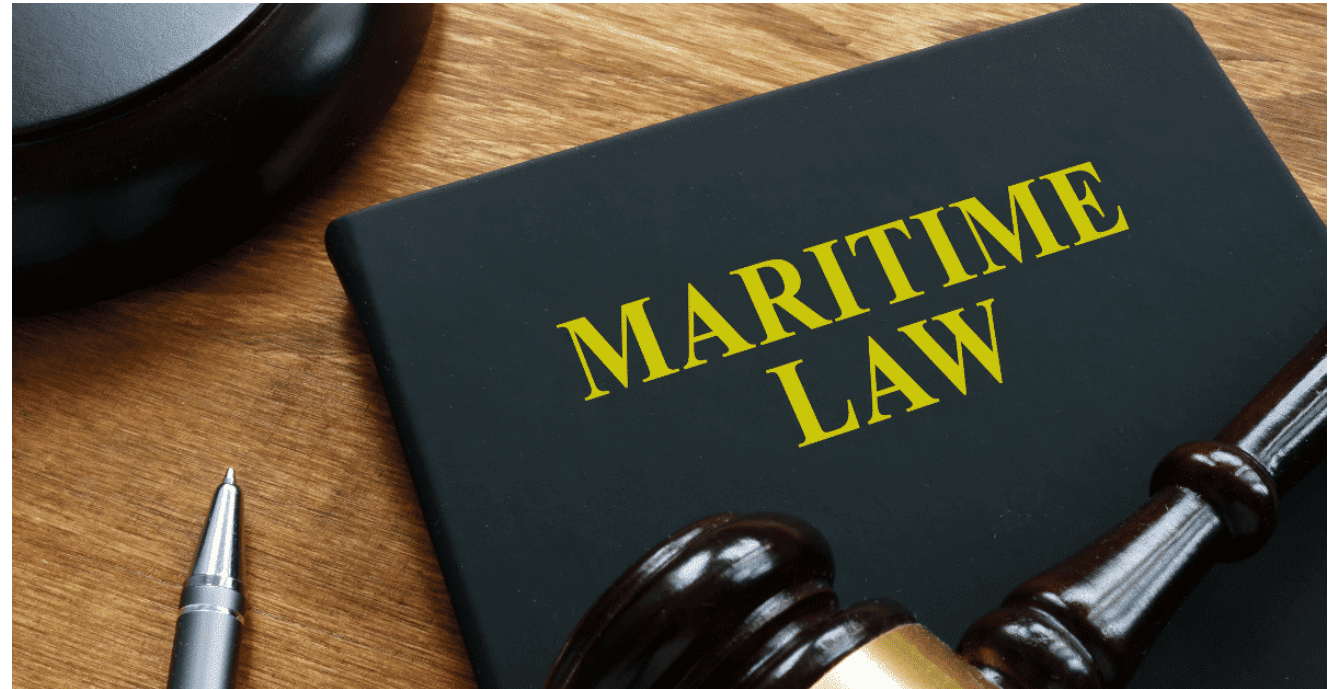


ENGINEERED LADDER SYSTEM



MARITIME LAWS

- The Longshore and Harbor Workers' Compensation Act (LHWCA)
- The Jones Act
- The difference between the two
- Why is this important



MARINE CONDITIONS & WEATHER

- WINDS
 - Marine Movements
 - Crane Limitations
 - Equipment Operations
- TIDE CYCLE
 - High Tide
 - Low Tide
- WAVES/CHOP
 - Marine Movements
- COLD WEATHER



SUBCHAPTER M- The Inspection of Vessels Rule

- Reclassified vessels required to be inspected as:
 - Over 26' in length
 - Truck-able tugs
 - Under 26' that is carrying oil or any other potentially hazardous material
- Established two pathways to compliance:
 - Annual USCG inspection
 - Implementation of a USCG accepted Towing Safety Management System



WORKING AT HEIGHTS

TRIGGER HEIGHTS

GENERAL INDUSTRIES

4'

MARITIME

5'

CONSTRUCTION

6'



29 CFR 1915- SHIPYARDS

“Applies to all ship repairing, shipbuilding, and shipbreaking employments & related employments (applies to all vessels).”

Vessel:

“Every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, including special purpose floating structures not primarily designed for or used as a means of transportation on water”



29 CFR 1915- SHIPYARDS



29 CFR 1917- MARINE TERMINALS

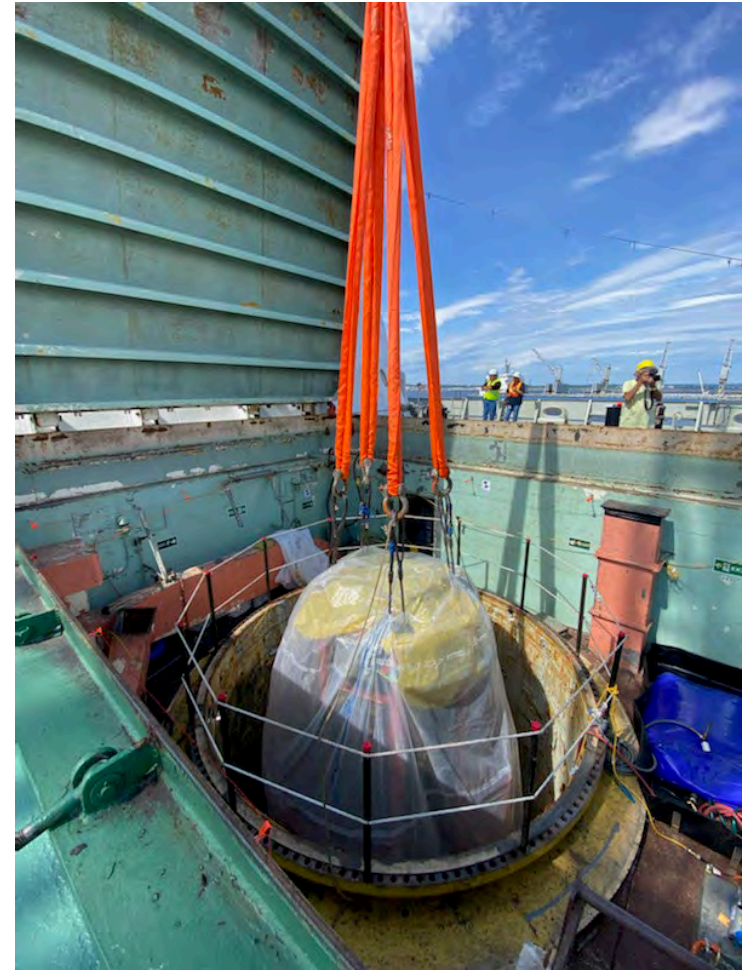
“ applies to employment within a marine terminal as defined in 1917.2, including the loading, unloading, movement or other handling or cargo, ship’s stores or gear within the terminal or into or out of any land carrier...”



29 CFR 1918- LONGSHORING

Longshoring Operations:

“the loading, unloading, movement or other handling or cargo, ship’s stores, gear, or any other materials, into, in on, or out of any vessel...”



De-commissioned nuclear reactor- SS Savannah

29 CFR 1926- CONSTRUCTION

“Construction, alteration, and/or repair, including painting and decorating.”

“Applies to every employment and place of employment of every employee engaged in construction work.”



SAFETY IN THE ENGINEERING OF FLOATING EQUIPMENT



McLean Whirleys



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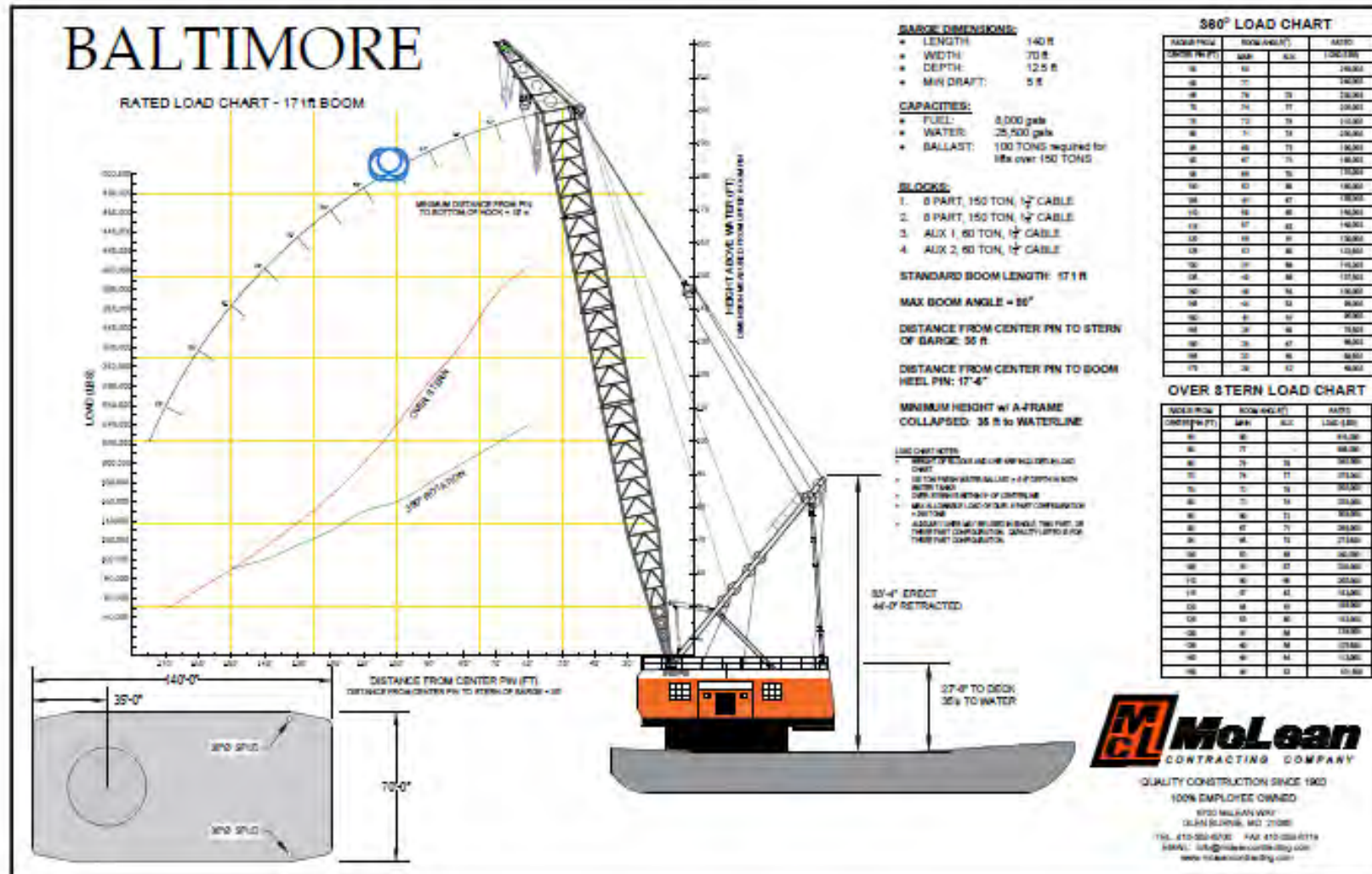
to this...



CENTENNIAL'S FIRST LIFT



DEVELOPMENT OF LOAD CHARTS



LOAD TESTING



CAPABILITIES



UNIQUE TRAINING REQUIREMENTS

- Deckhands
- Boat Captains
- Crane Operators
- Oilers



SCOPE OF AUTHORITY

- Federal OSHA
- State Plan States
- United States Coast Guard
- Army Corps of Engineers
- Environmental Protection Agency
- Federal Railroad Administration
 - Norfolk Southern
 - CSX

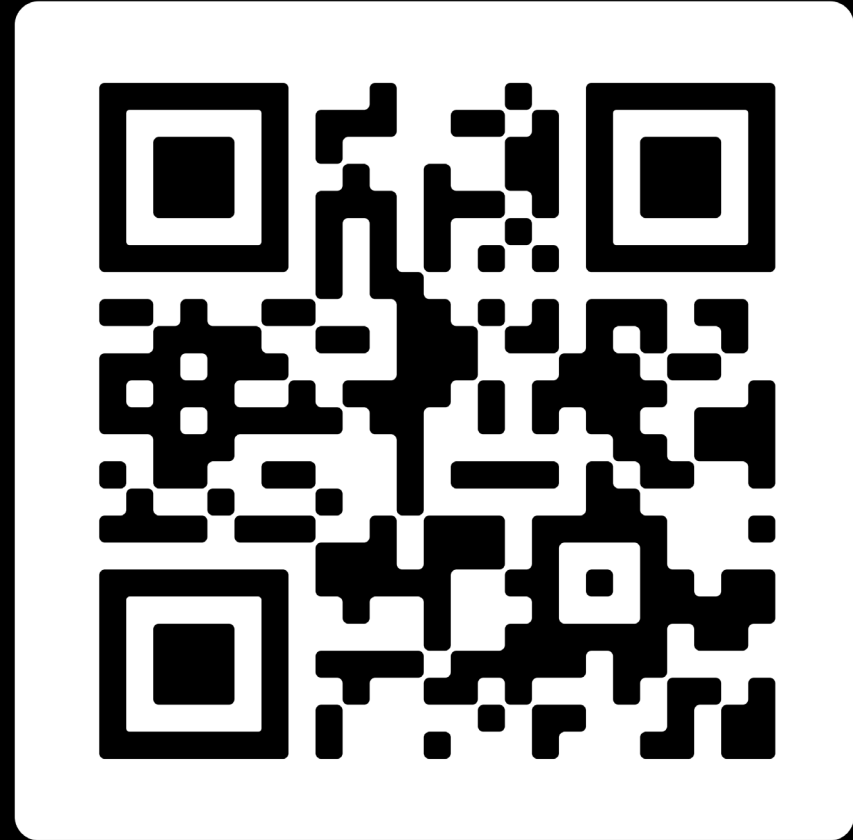


LETTERS OF INTERPRETATION

- Westinghouse Brake System
- PFD's while in the cab of a crane
- PPE while in an aerial lift over water



QUESTIONS?



8-B. Best Practices In Marine Construction